

**STATE ADVISORY COUNCIL ON
SCIENCE AND TECHNOLOGY
M I N U T E S**

Tuesday, January 9, 2001

3:00 - 5:00 p.m.

State Office Building, Room 5112

Salt Lake City

MEMBERS & ASSOCIATE MEMBERS PRESENT

SAUER, Dennis Alliant Techsystems, Inc.
JOHNSON, Susan Futura Industries
HOOPER, Gary Brigham Young University
GESTELAND, Ray University of Utah
BREHM, Michael Brehm Environmental LLC
LUND, Gary Thiokol Corporation
DOENGES, Peter Evans and Sutherland, Corp
MILLER, Brent Utah State University
EMBLEY, Phyllis Jordan School District
TAKACH, Troy Parvus Corporation
HARTY, Kimm UGS (for Rich Allis)

MEMBERS NOT PRESENT

ALLIS, Rich UGS

OTHERS PRESENT:

BAUER, Dan GOPB
KULKARNI, Rajiv Centers of Excellence
DART, Dorothy University of Utah
LAVINE, Greg Salt Lake Tribune
WINTERS, Suzanne State Science Advisor
JOHNSON, Susanna GOPB

I. Call to Order/Introductions/Approval of Minutes

Vice Chair, Gary Hooper called the meeting to order at 3:10 p.m. Everyone introduced themselves and Phyllis Embley, the new k-12 education representative to the Council, was welcomed. A motion was made to accept the minutes from the Special Session meeting of October 4, 2000, as written. Voting was unanimous and the minutes were approved.

II. Update: TOCDF/ACWA - Danny Bauer

On May 8, 2000, there was an agent release at the Tooele Chemical Depot Facility. The operators had processed M56 rockets and were performing maintenance on the metal parts furnace. The operator manipulated the controls allowing the furnace to become over drafted causing a flow sensor to shut the furnace down. During the attempts to relight the furnace, agent was drawn through the system from the exposed confinement room through the furnace and out through the pollution abatement system. Agent was then detected in the stack.

It was determined that a small amount of agent was released from the stack, but was not enough to cause danger to the workers or the public. An extensive investigation was performed by the U.S. Army, the Center for Disease Control, EG&G, and the Department of Environmental Quality.

In September, there was a hearing in Washington, held by a Congressional subcommittee regarding the investigation of the May 8 incident. They found the problems had been identified and corrected at the Tooele Facility.

III. Parowan Gap Visit - Mike Brehm and Troy Takach

In November, Mike Brehm and Troy Takach visited the Parowan Astro-Archeology site at the Parowan Gap located 10 miles outside of Parowan.

The petroglyphs are extensive and are believed to present many references to astrological events. The alignment with solar and lunar phenomena is obvious because of the many numerical representations. There are more petroglyphs at this site than all of the other developed sites in Utah.

A fence covers a portion of the site but the area is only partially protected and there is on-going destruction of the property is evident. There have been limited funds for protection and preservation. The land is under the supervision of Utah Department Of Transportation (UDOT). If properly developed, the Parowan Gap could be a significant part of Utah history.

It was decided by the Council to pass a resolution encouraging the preservation of the site for future development and educational opportunities.

Action Item: Suzanne Winters will draft a resolution encouraging preservation of the Parowan Gap site.

IV. Executive Committee Meeting with Governor Leavitt - Susan Johnson

Susan Johnson discussed the Executive Committee Meeting held on October 4, 2000 and the Executive Committee Meeting held with Governor Leavitt in December. The consensus of the October meeting was that the Science Council needs to focus on what their goals are and how they can be achieved. To help with identifying these goals, the Executive Committee drafted a letter to the Governor with three major issues on which the Council could provide assistance:

1. The Engineering and Technology Initiative
2. Review proposed legislation with SET (Science, Engineering & Technology) implications.
3. Address growth related "quality of life" issues of a scientific nature.

During the December meeting, Governor Leavitt was most interested in the Engineering Technology Initiative. In his recent budget, he proposed more money for engineering and technology higher education. He asked the Committee members for recommendations on how that money could be used most effectively.

Suzanne Winters discussed the role of the Science Advisor to the Governor. Several years ago, she and the Council met with department heads and division directors in State Government to see how they interfaced with the science community. They discussed how they might facilitate implementation of the use of science and technology within the departments. The Council prepared a white paper on each of the departments for the Governor.

As the Governor begins the start of a new term in office, he has recommended that Dr. Winters and the Executive Committee attend a Cabinet Meeting to develop a relationship with the Department heads and make them aware of the resources of the Science Council. The Governor's main focus is on Engineering and Technology Initiative at the higher ed level and bringing high tech businesses to the State of Utah.

The Council discussed how we might assist the Governor with the Engineering Initiative. Initially, the "pipeline" issue was discussed as a limitation to the goal of doubling the number of graduating engineers. Specifically, the number of science and technology high school teachers motivating and preparing students to enter college is inadequate. Identification of impediments included:

1. How are we preparing our science teachers?
2. Curriculum for a teacher is 5 years at the University of Utah.
3. The certification process for technically trained people to teach highschool science.
4. In-service/retread operation including the quality and effectiveness.

The subsequent discussions addressing these and other impediments included ideas such as:

1. Industry consortia to provide bonuses to outstanding teachers (with a possible tax credit for participating industries).
2. "Charter"/Focus/Simulation learning with experiential learning labs.

Also during the discussion Pete Doenges introduced a new concept in teaching being used at a high school in Orlando, Florida. The basic concept is *Simulation-based* teaching. He explained that simulation is wide spread in society and frequently in the technical part of our culture. It is used to train people to learn skills and judgement about doing things and to predict the behavior of the systems we work on. Simulation is applied to economics in disaster scenarios. There is

potential to accelerate and deepen the learning process by offering experiential learning based on simulation in high school and college education to complement traditional symbolic/analytical and critical thinking disciplines for an increasingly wider student population as such a system is refined and proven.

This means change and potentially runs into educational policy issues, key teacher contributions and buy-in about the benefits, curriculum certification, courseware integration, equipment and software modernization, networking and other technical and administrative hurdles, without sacrificing immersion in the humanities and balanced education. It would eventually require a major team effort among education, industry and government, and if worthy, the details would be worked in committee and with other agencies. This could be a worthy push in the right environment with the right team in our state to stimulate secondary school effectiveness and student positioning for industry jobs.

Action Item: Suzanne will draft a proposed strategy/list of ideas on which the Council may focus their attention and energies with resulting white papers and proposals to the Governor.

V. SAC Future Activities /Discussion

The announcement for nominations for the Governor's Medal for Science will be mailed soon. Dennis Sauer, Brent Miller, Rich Allis, and Susan Johnson will form the review committee and review nominations received.

Dr. Charles Brokopp invited the State Advisory Council to appoint a member of the Council to participate on the Utah Food Safety Task Force. States are being encouraged and supported by the U.S. FDA to form statewide food safety task forces. As a result of a summit held a year ago, it was made clear there are important food safety issues which need to be addressed by the Utah Department of Health and/or the Utah Department of Agriculture and Food. Gary Lund and Brent Miller agreed to serve on the Task Force.

Suzanne will follow up with Dr. Brokopp.

Dr. Winters asked the Council for three or four names to be submitted to the Governor for the open position on the Science Council.

After discussion, it was determined that future Science Council meetings will be held on the **fourth Wednesday**, every **other** month. The next meeting will be held on Wednesday, February 28.

VI. Adjourn

The meeting was adjourned at 5:00 p.m.